WHAT IS CLAIMED IS:

1. An optical switch for routing an optical signal, comprising:

a base having a fulcrum shaft;

a deflecting member mounted movably on said base and tiltable about said fulcrum shaft so as to be adapted for deflecting the optical signal;

a plurality of elongate cantilevers disposed on said base and arranged around said deflecting member, each of said cantilevers having a hammer end portion disposed on a periphery of said deflecting member, and a coupling end portion opposite to said hammer end portion and connected to said base, each of said cantilevers being operable so as to move from a suspending position, where said cantilever is bent such that said hammer end portion is spaced apart from said deflecting member, thereby storing a restoring force in said cantilever, to a pumping position, where said hammer end portion strikes said deflecting member so as td force said deflecting member. to tilt about said fulcrum shaft; and

a plurality of control units, each of which is disposed on said base, is operably associated with a corresponding one of said cantilevers, and is capable of controlling the corresponding one of said cantilevers to move to an appropriate one of the suspending position and the pumping position so as to enable said deflecting member to tilt to a desired direction.

2. The optical switch as claimed in Claim 1, further comprising at least one input module adapted for providing the optical signal to said deflecting member, and a plurality of output modules, wherein tilting of said deflecting member to the desired direction results in receipt of the optical signal deflected by said deflecting member by a selected one of said output modules.

3. The optical switch as claimed in Claim 2, wherein said input module is disposed on one side of said deflecting member, and said output modules are disposed on another side of said deflecting member opposite to said one side.

4. The optical switch as claimed in Claim 2, wherein said input module is substantially aligned with said fulcrum shaft, said output modules being disposed around said input module.

5. The optical switch as claimed in Claim 1, wherein said deflecting member includes a deflector disposed on said fulcrum shaft, and a set of suspension arms arranged around said deflector and interconnecting said deflector and said base.

6. The optical switch as claimed in Claim 5, wherein each of said suspension, arms has a serpentine configuration.

7. The optical switch as claimed in Claim 6, wherein each of said suspension arms has a width that increases in a direction from said deflector to said base.

8. The optical switch as claimed in Claim 1, wherein said deflecting member includes a deflector having a deflecting side and a mounting side opposite to said deflecting side, said deflector being formed with a plurality of projections extending radially from a periphery of said deflector, said base being formed with a deflector receiving recess, said fulcrum shaft being disposed in said deflector receiving recess, said deflector receiving recess being confined by a confining wall that extends parallel to said fulcrum shaft, said confining wall being formed with a plurality of guiding grooves corresponding to said projections on said deflector such that said projections are positioned movably and respectively in said guiding grooves when said mounting side of said deflector is disposed on said fulcrum shaft in said deflector receiving recess, said deflecting member further including a set of magnetic plates mounted on said mounting side of said deflector, said base being further provided with a set of permanent magnet blocks in said recess and corresponding to said magnetic plates for stabilizing said deflector where one of said cantilevers strikes said deflector.

9. The optical switch as claimed in Claim 1, wherein each of cantilevers is made of a magnetically-attractive material.

10. The optical switch as claimed in Claim 9, wherein each of said control units includes

a mounting member disposed on said base adjacent to the corresponding one of said cantilevers,

an electromagnet mounted on said mounting member, and

an L-shaped actuator having an intermediate pivot portion, connected pivotally to said mounting member and pivotable about a pivot axis transverse to said fulcrum shaft, an elongate hooking portion connected to said intermediate pivot portion and extending toward the corresponding one of said cantilevers, and a

magnetically- attractive interacting portion connected to said intermediate pivot portion and transverse to said hooking portion,

said electromagnet being operable in one of an energized state and a de-energized state, said electromagnet attracting said hammer end portion of the corresponding one of said corresponding cantilevers when in the energized state so as to enable said actuator to pivot about said pivot axis such that said hooking portion moves said hammer end portion of the corresponding one of said cantilevers to dispose the corresponding one of said cantilevers in the suspending position, said electromagnet releasing said interacting portion when in the de-energized state so as to enable said actuator to pivot about said pivot axis such that said hooking portion permits movement of said hammer end portion of the corresponding one of said cantilevers to dispose the corresponding one of said cantilevers in the pumping position by virtue of the restoring force in the corresponding one of said cantilevers.

11. The optical, switch as claimed in Claim 10, wherein each of said control units further includes an electrostatic plate mounted on said mounting member and disposed above said interacting portion of said actuator, said electrostatic plate being operable so as to attract said interacting portion of said actuator when said electromagnet is in the de-energized state to enable said actuator to pivot about said pivot axis.

12. The optical switch as claimed in Claim 1, wherein each of said control units includes

a driving member connected pivotally to said base and disposed on said base adjacent to the corresponding one of said cantilevers, said driving member having a first intermediate pivot portion connected pivotally to said base and pivotable about a first pivot axis transverse to said fulcrum shaft, a driving end portion connected to said first intermediate pivot portion and disposed above the corresponding one of said cantilevers and adjacent to said deflecting member, and a magnetically-attractive end portion opposite to said driving end portion and connected to said first intermediate pivot portion,

a first electromagnet member mounted on said base and disposed adjacent to and below said magnetically-attractive end portion of said driving member,

a second electromagnet member mounted on said driving end portion of said driving member, and

an L-shaped actuator having a second intermediate pivot portion connected pivotally to said driving end portion of said driving member and pivotable about a second pivot axis transverse to said fulcrum shaft and parallel to the first pivot axis, an elongate hooking portion connected to said second intermediate pivot portion, and extending toward the corresponding one of said cantilevers, and a magnetically-attractive interacting portion connected to said second intermediate pivot portion and disposed adjacent to said second electromagnet member,

said first electromagnet member being energized to attract said magnetically-attractive end portion of said driving member so as to enable said driving member to pivot about said first pivot axis such that said hooking portion of said actuator moves with said driving end portion of said driving member so as to hook said hammer end portion of the corresponding one of said cantilevers when said second electromagnet member is energized to attract said interacting portion of said actuator in order to dispose the corresponding one of said cantilevers in the suspending position,

said second electromagnet member being de-energized to release said interacting portion of said actuator and enable pivoting movement of said actuator such that said hooking portion of said actuator permits movement of said hammer end portion of the corresponding one of said cantilevers to dispose the corresponding one of said cantilevers in the pumping position by virtue of the restoring force of the corresponding one of said cantilevers.

13. The optical switch as claimed in Claim 1, wherein each of said control units includes

a mounting member disposed on said base adjacent to the corresponding one of said cantilevers,

a first electromagnet member mounted on said mounting member,

a magnetically-attractive working plate disposed below said first electromagnet member, said working plate having a connecting end connected to said mounting member, and a driving end opposite to said connecting end and disposed below said hammer end portion of the corresponding one of said cantilevers, a second electromagnet member mounted on said mounting member

and disposed adjacent to said coupling end portion of the corresponding one of said cantilevers, and

a sliding actuator disposed slidably between said base and the corresponding one of said cantilevers, said sliding actuator having a magnetically-attractive interacting portion disposed adjacent to said second electromagnet member, and an elongate actuating portion connected to said interacting portion and disposed directly underneath the corresponding one of said cantilevers, said actuating portion being formed with an upwardly extending actuating projection, the corresponding one of said cantilevers being formed with a receiving groove corresponding to said actuating projection,

said first electromagnet member being operable in one of an energized state and a de-energized state, said first electromagnet member attracting said working plate when in the energized state to move upwardly said hammer end portion of the corresponding one of said cantilevers so as to dispose the corresponding one of said cantilevers in the suspending position,

said second electromagnet member being operable so as to drive said actuator to move from a holding position, where said actuating projection holds the corresponding one of said cantilevers in the suspending position when said first electromagnet member is operated from the energized state to the de-energized state, to a releasing position, where said actuating projection extends into said receiving groove in the corresponding one of said cantilevers so as to permit movement of said hammer end portion of the corresponding one of said cantilevers to dispose the corresponding one of said cantilevers in the pumping position by virtue of the restoring force in the corresponding one of said cantilevers.

14. The optical switch as claimed in Claim 13, wherein said actuating portion of said actuator has a bottom surface formed with an elongate guiding groove, said base having a top surface formed with an elongate guiding rib that engages slidably said guiding groove.